SWiMS Meeting
Advanced Monitoring Initiative Project Summary

Developing Water and Land Tools to Forecast Bacterial Exposure in Beach Settings

March 18, 2008

ORD Advanced Monitoring Initiative (AMI)

Objective: Develop, synthesize, compare and promote tools to provide early warnings about bacterial levels that pose health risks to beach communities.
The synthesized system will forecast bacterial levels as a function of time and location.

Timeline: 2007-2009

Activities: Statistical modeling, watershed modeling EPA, USGS, NOAA, Lake County IL collaboration.

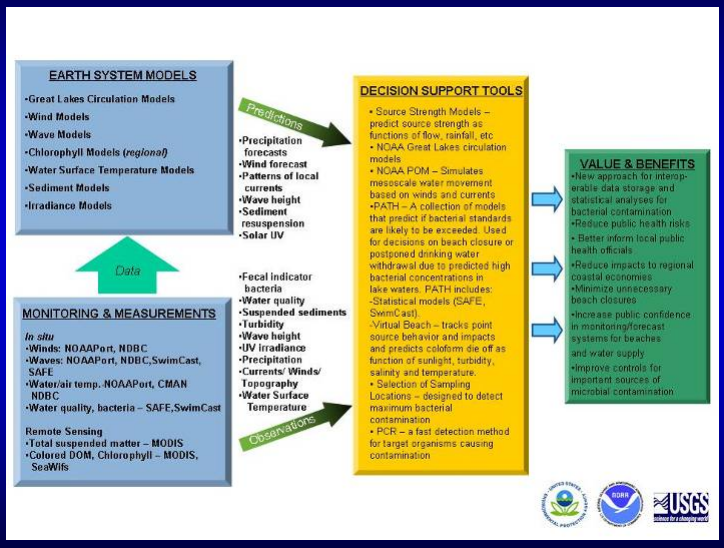
AMI Project Participants

Pilot Project Lead(s): Richard Zepp, Richard Zdanowicz
Walter Frick, Marirosa Molina, Alfred Krause (ORD/Region 5)

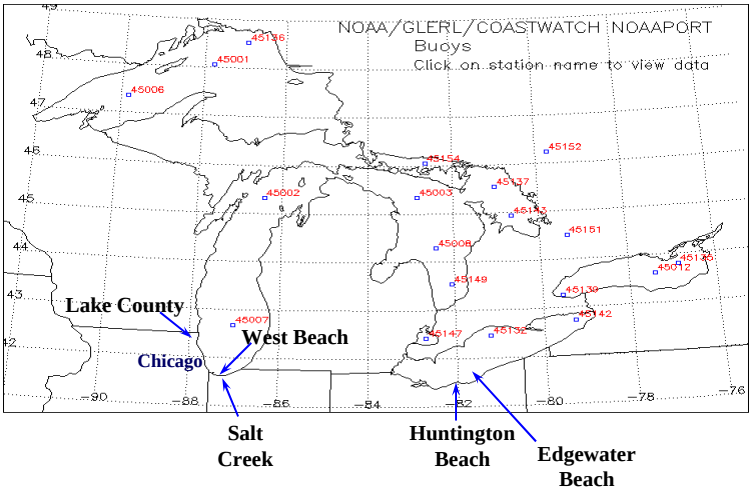
Key collaborators:

David Schwab, George Leshkevich – NOAA, GLERL, Ann Arbor, MI
Richard Whitman, USGS, Porter IN
Donna Francy, USGS Ohio Water Science Center, Columbus, OH
Ross Lunetta– ORD/NERL/ESD, Las Vegas, NV
Rich Haugland, Al Dufour– ORD/NERL/MCEARD, Cincinnati, OH
Holiday Wirick, David Rockwell – Region 5, Chicago, IL
Mark Pfister, Mike Adams-Lake Cnty Hlth Dept., Waukegan, IL

Approach to bacterial exposure management: observations, models, tools and benefits



Map Illustrating AMI Great Lakes Beach Sites

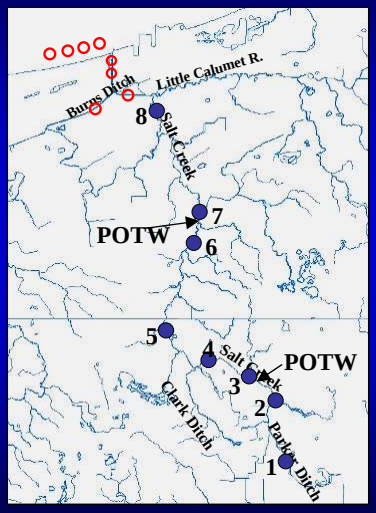


Pathogen Fate and Transport Studies (Salt Creek)

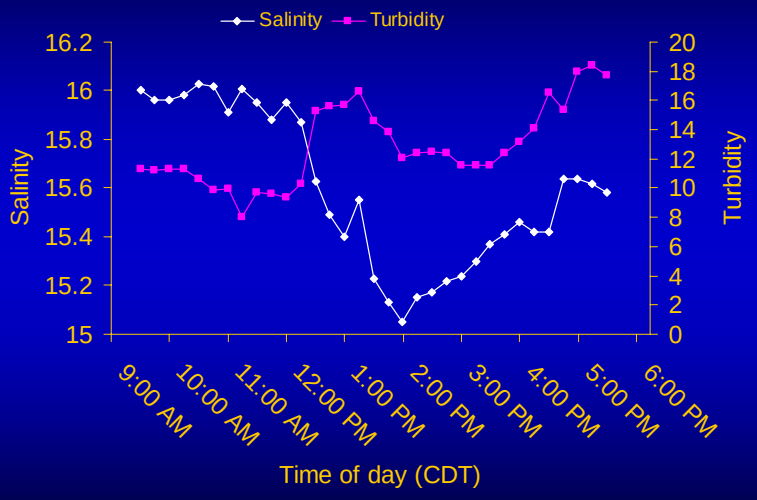
-Quantifying microbial levels (culturable and qPCR enterococci and qPCR bacteroidetes) and descriptive variables at selected locations on Salt Creek Indiana and develop statistical models for prediction at these sites

-Collaboration with USGS (R. Whitman)

Fate/Transport Study Planned As Part of AMI Project (EPA/USGS Collaboration)

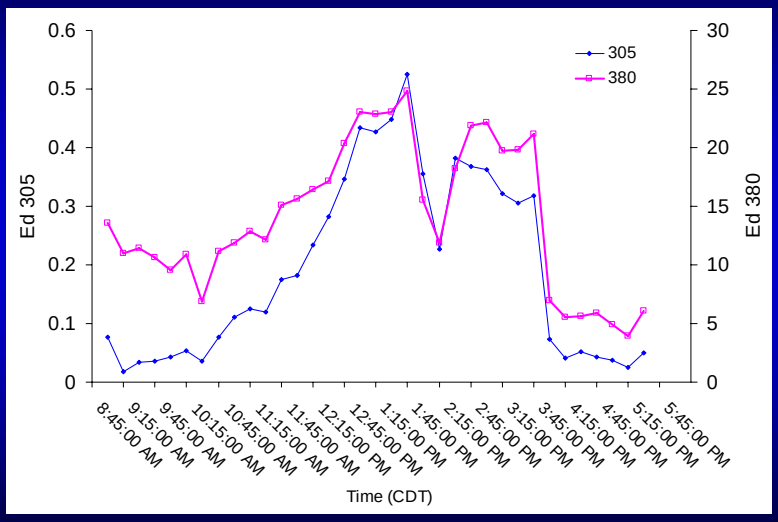


Turbidity and Salinity Variability at Mobile Bay Epi Site



Underwater UV Variability at Mobile Bay Epi Site

(Depth 10 cm)



U.S. Environmental Protection Agency

Office of Research & Development